

CLAIMS:

1. A cable failure device for a cable-operated door operated by a tensioned cable, the cable-operated door having a movement guided along a fixed structure, the fixed structure having an inner portion and an outer portion, the cable failure device being mountable onto the cable-operated door and being configured for cooperating with the tensioned cable so as to immobilize the cable-operated door with respect to the fixed structure in the event of a loss of tension in the cable, the cable failure device comprising:

a support bracket mountable onto a bottom portion of the cable-operated door, the support bracket comprising:

at least one hole for receiving each a corresponding fastener for securely mounting the support bracket onto the cable-operated door; and

a connection point onto which an extremity of the tensioned cable is connected;

a guiding assembly operatively mounted onto the support bracket for guiding the movement of the cable-operated door along the fixed structure, the guiding assembly travelling along the inner portion of the fixed structure;

a braking assembly operatively mounted onto the support bracket, the braking assembly being operable between a rest position where the guiding assembly is allowed to guide the cable-operated door along the fixed structure, and an operable position triggered by a given loss of tension detected in the tensioned cable where the braking assembly engages a portion of the fixed structure for braking movement of the cable-operated door with respect to the fixed structure; and

a safety arm operatively connected to the braking assembly and cooperating with the tensioned cable so as to detect said given loss of tension, the safety arm being operable between a safety configuration where it is positioned over at least one fastener of said at least one hole of the support bracket when there is still a given tension in the tensioned cable, for preventing a user from removing the support bracket from the cable-operated door, and a retracted configuration where the safety arm is positioned away from said at least one

fastener when said given tension is no longer present in the cable, thereby enabling the user to access said at least one fastener.

2. A cable failure device according to claim 1, wherein the cable failure
5 device comprises guiding means for guiding the tensioned cable about the support bracket and onto the connection point thereof.

3. A cable failure device according to claim 2, wherein the guiding
means comprises a block slidably mountable onto the safety arm, the block being
10 provided with at least one recess for receiving and guiding the tensioned cable onto the connection point of the support bracket.

4. A cable failure device according to claim 2, wherein the guiding
means comprises a guiding channel disposed along a side portion of the support
15 bracket, for guiding the tensioned cable onto said at least one recess of the block mounted onto the safety arm.

5. A cable failure device according to claim 4, wherein the cable failure
device comprises a side plate removably connectable onto the side portion of the
20 support bracket so as to define the guiding channel.

6. A cable failure device according to claim 1, wherein the support
bracket comprises first and second support arms, and wherein the guiding
assembly comprises a roller mounted about a shaft, said shaft being mounted onto
25 the first and second support arms of the support bracket.

7. A cable failure device according to claim 6, wherein the braking
assembly comprises a braking plate, pivotably mounted about the shaft between
the second support arm and the roller, and rigidly connected to the safety arm, the
30 braking plate being shaped and sized for travelling along the inner portion of the fixed structure when the braking assembly is in the rest position and for engaging a portion of the fixed structure when the braking assembly is triggered into an

operable position, so as to immobilize the cable-operated door with respect to the fixed structure.

8. A cable failure device according to claim 1, wherein the braking
5 assembly comprising biasing means for biasing the braking assembly into an operable position when said given loss of tension is detected by the safety arm.

9. A cable failure device according to claim 8, wherein the biasing
10 means comprise a spring having one end operatively connected to the support bracket and another end operatively connected to the braking plate via the safety arm, for urging the braking plate to engage the fixed structure when said given loss of tension is detected by the safety arm.

10. A cable failure device according to claim 9, wherein said another end
15 of the spring is connected to the block mounted onto the safety arm.

11. A cable failure device according to claim 1, wherein the cable failure
device comprises a casing removably mountable onto the support bracket for
substantially covering the support bracket and other components operatively
20 connected thereto.

12. A cable-operated door operated by a tensioned cable, the cable-
operated door having a movement guided along a fixed structure, the fixed
structure having an inner portion and an outer portion, the cable-operated door
25 comprising a cable failure device configured for cooperating with the tensioned cable so as to immobilize the cable-operated door with respect to the fixed structure in the event of a loss of tension in the cable, the cable failure device comprising:

a support bracket mounted onto a bottom portion of the cable-operated
30 door, the support bracket comprising:

at least one hole receiving each a corresponding fastener for
securely mounting the support bracket onto the cable-operated door; and

a connection point onto which an extremity of the tensioned cable is connected;

a guiding assembly operatively mounted onto the support bracket for guiding the movement of the cable-operated door along the fixed structure, the
5 guiding assembly travelling along the inner portion of the fixed structure;

a braking assembly operatively mounted onto the support bracket, the braking assembly being operable between a rest position where the guiding assembly is allowed to guide the cable-operated door along the fixed structure, and an operable position triggered by a given loss of tension detected in the
10 tensioned cable where the braking assembly engages a portion of the fixed structure for braking movement of the cable-operated door with respect to the fixed structure; and

a safety arm operatively connected to the braking assembly and cooperating with the tensioned cable so as to detect said given loss of tension, the
15 safety arm being operable between a safety configuration where it is positioned over at least one fastener of said at least one hole of the support bracket when there is still a given tension in the tensioned cable, for preventing a user from removing the support bracket from the cable-operated door, and a retracted configuration where the safety arm is positioned away from said at least one
20 fastener when said given tension is no longer present in the cable, thereby enabling the user to access said at least one fastener.

13. A cable-operated door according to claim 12, wherein the cable failure device comprises guiding means for guiding the tensioned cable about the
25 support bracket and onto the connection point thereof.

14. A cable-operated door according to claim 13, wherein the guiding means comprises a block slidably mountable onto the safety arm, the block being provided with at least one recess for receiving and guiding the tensioned cable
30 onto the connection point of the support bracket, and wherein the guiding means further comprises a guiding channel disposed along a side portion of the support

bracket, for guiding the tensioned cable onto said at least one recess of the block mounted onto the safety arm.

15. A cable-operated door according to claim 14, wherein the cable
5 failure device comprises a side plate removably connectable onto the side portion of the support bracket so as to define the guiding channel.

16. A cable-operated door according to claim 12, wherein the support
bracket comprises first and second support arms, and wherein the guiding
10 assembly comprises a roller mounted about a shaft, said shaft being mounted onto the first and second support arms of the support bracket.

17. A cable-operated door according to claim 16, wherein the braking
assembly comprises a braking plate, pivotably mounted about the shaft between
15 the second support arm and the roller, and rigidly connected to the safety arm, the braking plate being shaped and sized for travelling along the inner portion of the fixed structure when the braking assembly is in the rest position and for engaging a portion of the fixed structure when the braking assembly is triggered into an operable position, so as to immobilize the cable-operated door with respect to the
20 fixed structure.

18. A cable-operated door according to claim 12, wherein the braking
assembly comprising biasing means for biasing the braking assembly into an
operable position when said given loss of tension is detected by the safety arm.
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19. A cable-operated door according to claim 18, wherein the biasing
means comprise a spring having one end operatively connected to the support
bracket and another end operatively connected to the braking plate via the safety
arm, for urging the braking plate to engage the fixed structure when said given
30 loss of tension is detected by the safety arm.

20. A cable-operated door according to claim 12, wherein the cable failure device comprises a casing removably mountable onto the support bracket for substantially covering the support bracket and other components operatively connected thereto.